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IS 7175 (1974): Cots for Top Rollers [TXD 14: Machinery for Fabric Manufacture]

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Indian Standard "प्र० ७१७५ १९७४"
SPECIFICATION FOR "RE-ALIGNED 1991"
COTS FOR TOP ROLLERS

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INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 RAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

Indian Standard
SPECIFICATION FOR
COTS FOR TOP ROLLERS

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Indian Standard
SPECIFICATION FOR
COTS FOR TOP ROLLERS

0. F O R E W O R D

0.1 This Indian Standard was adopted by the Indian Standards Institution on 21 January 1974, after the draft finalized by the Spinning Machinery (Cotton System) Sectional Committee had been approved by the Textile Division Council.

0.2 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard prescribes requirements of rubber cots for top rollers used in textile spinning machinery.

1.1.1 This standard does not specify the chemical characteristics of rubber.

2. DIMENSIONS

2.1 The recommended values for bare roller diameter, finished outside diameter and width of covering shall be as given below:

- a) *Bare Roller Diameter in mm* — (16), (18), 19, (20), 22, 25, 28, 30, (32), (34), 35, (36), (38), 40, 45, 50, 55, 60, and in steps of 10 over diameter 60.
- b) *Finished Outside Diameter in mm* — (25), (27), 28, (29), 30, 32, 35, 40, and in steps of 5 over diameter 40.
- c) *Width of Covering in mm* — 25, 28, 30, 32, (34), 35, 40, 45, 50, 55, 60, and in steps of 10 over width 60.

NOTE — The dimensions appearing in parentheses shall not be used for new designs.

*Rules for rounding off numerical values (*revised*).

3. MANUFACTURE

3.1 Material — Cots shall be made of synthetic rubber or a blend of cork and synthetic rubber. The material should not be adversely affected by oils. The cots of different compositions and/or shore hardness shall be distinguishable.

3.2 Workmanship and Finish — The outer surface of the bare cots shall be seamless. The cots when buffed (*see Appendix A*) to the required outside finished diameter shall be free from surface irregularities, cuts, blisters, porosity, foreign matter or any other defect which is likely to affect the life or usefulness of cots.

4. REQUIREMENTS

4.1 Dimensions — The width and bore diameter of the cots shall be as prescribed by the buyer subject to the following tolerances:

Width	± 0.5 mm
Bore Diameter	$\left\{ \begin{array}{l} + 0.0 \\ - 0.8 \end{array} \right. \text{ mm}$

Note — On the basis of bare roller diameter specified by the buyer the manufacturer shall decide the bore diameter depending upon the material used which may be intimated to the buyer. The material shall be such that cot after being mounted does not split or slip.

4.1.1 The wall thickness shall be such that when the cot is mounted and buffed it should be capable of meeting the finished outside diameter fixed by the customer and shall meet the requirements of quality as specified in **4.2**.

Note — Wall thickness of cot is a very important characteristic. The thicker the wall the greater the number of possible rebuffings and thus longer the service life of the cot. Normally finished wall thickness is 3.2 mm, *Min*, for speed and ring frames.

4.2 Shore Hardness — The Shore hardness of cots shall be as agreed between the buyer and the seller in the range of 50° to 95° subject to a tolerance of ± 5 °.

4.2.1 The variation in Shore hardness at any two points of any cot shall not be more than 5°.

5. DESIGNATION

5.1 The cots shall be designated as follows:

Bare roller diameter \times Finished outside diameter \times Width of covering — Shore A hardness — Execution A or B — Saddle pressure in daN*.

Note — Execution A represents cots without bevelled sides and Execution B represents cots with bevelled sides and the person ordering cots is free to order execution A or B.

*daN (decanewton) is the unit of force. 1daN = 1.02 kgf.

Example:

The cots for bare roller diameter of 19 mm, finished outside diameter of 28 mm, width of covering 25 mm, hardness 82° shore A, execution B and saddle pressure 18 daN shall be designated as under:

19 × 28 × 25 — A/82 — Execution B — 18

6. PACKING

6.1 Depending on the order to be executed, a suitable number of cots of homogeneous lot shall be packed in polyethylene bags.

7. MARKING

7.1 Each bag shall be marked or tagged with the following:

- a) Name of the manufacturer, initials or trade-mark, if any;
- b) Designation; and
- c) Compound reference.

7.1.1 The cots may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard, under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

8. SAMPLING

8.1 In order to ascertain the conformity of the lot to the requirements of this specification, method given in IS : 2500 (Part I)-1973* shall be used for sampling inspection. The sampling plan as given in **8.1.1** shall be adopted.

8.1.1 For dimensions, workmanship, finish and shore hardness, single sampling plan with inspection level III and acceptable quality level (AQL) 2.5 percent shall be adopted [see Tables 1 and 2 of IS : 2500 (Part I)-1973*].

*Sampling inspection tables: Part I Inspection by attributes and by count of defects (first revision).

APPENDIX A

(Clause 3.2)

RECOMMENDED METHOD OF BUFFING OF COTS

A-1. Any suitable machine capable of grinding on centres or with centre-less grinding attachment may be used for buffing fresh cots or for rebuffering. For large scale buffing, it is advisable to employ two buffing machines. One machine may be used to buff the cots to about 0.2 to 0.3 mm higher than the finished outside diameter specified. This is known as rough buffing and for this a machine with coarse stone of about 40 grit may be used. The other machine with a finer stone of 60 grit may be used for final or finished buffing. By using two machines in turn it is possible to obtain a very much higher rate of production of finished cots. However, for rebuffering of cots in the mills only one buffing machine may be used with stone of 60 grit.

AMENDMENT NO. 1 SEPTEMBER 1976

TO

IS:7175-1974 SPECIFICATION FOR
COTS FOR TOP ROLLERS

Addenda

(Page 4, clause 4.1)

- a) Line 3 - Add 'excluding mounting allowance' after 'Width'.
- b) Note - Add the following Note as Note 1 and re-number the existing Note as Note 2:

'Note 1 - Mounting allowance on width shall be decided by the manufacturer depending upon the material used and may be intimated to the buyer.'

(TDC 30)

Reprography Unit, ISI, New Delhi